

What is claimed is:

1. A motion detector capable of sensing motion of an object to which it is coupled, the motion detector comprising:

5 a fastener having a plurality of surfaces, the fastener being directly coupleable with the object; and

a motion sensor secured to one of the plurality of surfaces of the fastener.

2. The motion detector as defined by claim 1 wherein the motion sensor

10 comprises a package, the package being secured to one of the plurality of surfaces of the fastener.

3. The motion detector as defined by claim 1 wherein the fastener has an outer surface with at least one thread.

15

4. The motion detector as defined by claim 1 wherein the fastener is a bolt.

5. The motion detector as defined by claim 1 wherein the fastener has a shaft forming an interior surface, the motion sensor being secured to the interior

20 surface.

6. The motion detector as defined by claim 5 wherein the interior surface defines a bore, the bore being filled with a fill material.

25 7. The motion detector as defined by claim 1 wherein the motion sensor has a sense axis and the fastener has a longitudinal axis, the sense axis being aligned to be either substantially parallel to or substantially normal to the longitudinal axis.

8. The motion detector as defined by claim 1 wherein the motion sensor includes connect detection circuitry, the connect detection circuitry being capable of determining if the fastener is coupled with the object, the connect detection circuitry being in electrical communication with one of the plurality of surfaces of the fastener.

9. The motion detector as defined by claim 1 wherein the fastener includes an exterior surface, the motion sensor being secured to the exterior surface.

10

10. A motion detector capable of sensing motion of an object to which it is coupled, the motion detector comprising:

means for directly coupling with the object, the directly coupling means having a plurality of surfaces; and

15

means for sensing motion of the object, the sensing means being secured to one of the plurality of surfaces of the directly coupling means.

11. The motion detector as defined by claim 10 wherein the means for directly coupling includes a fastener.

20

12. The motion detector as defined by claim 10 wherein the sensing means includes an accelerometer or a gyroscope.

25

13. The motion detector as defined by claim 10 wherein the directly coupling means includes a shaft forming an interior surface, the sensing means being secured to the interior surface.

14. The motion detector as defined by claim 10 sensing means includes means for determining if the directly coupling means is directly coupled with the object, the determining means being in electrical communication with one of the plurality of surfaces of the fastener.

5

15. The motion detector as defined by claim 10 wherein the sensing means includes a package secured to one of the plurality of surfaces of the directly coupling means.

10 16. A method of producing a motion detector, the method comprising:
providing a fastener having a plurality of surfaces; and
directly securing a motion sensor to one of the plurality of surfaces.

15 17. The method as defined by claim 16 further including forming a bore in the fastener, the motion sensor being secured within the bore.

18. The method as defined by claim 17 further comprising filling the bore with a fill material.

20 19. The method as defined by claim 17 wherein the motion sensor includes a sense axis and the fastener includes a longitudinal axis, directly securing including aligning the sense axis of the motion detector to be either substantially parallel to or substantially normal to the longitudinal axis of the fastener.

25 20. The apparatus formed in accordance with the process of claim 16.

21. A motion detector capable of sensing motion of an object to which it is coupled, the motion detector comprising:

a fastener having an interior, the fastener being directly coupleable with the object; and

a motion sensor within the interior of the fastener.

5 22. The motion detector as defined by claim 21 wherein the fastener forms a bore that contains the motion sensor, the bore being filled by a fill material.